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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/931,256

08/17/2001

Noribumi Koitabashi

1272.7910D4

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10/19/2004

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EXAMINER

DO, AN H

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 10/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/931,256

Applicant(s)

KOITABASHI ET AL.

Examiner

An H. Do

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47-59 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47-59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Preliminary Amendment filed on 15 June 2004 has been acknowledged.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 15 June 2004 has been entered.

Withdrawal of Allowability

2. Prosecution on the merits of this application is reopened on claims 47-57 considered unpatentable for the reasons indicated below:

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 47-59 are rejected under 35 U.S.C. 102(e) as being anticipated by Rezanka (US 5,412,410).

Rezanka discloses in Figures 1-3, 8 and 9 the following claimed limitations:

Regarding claims 47 and 49, an ink jet printing apparatus and method (Figures 1-3, 8 and 9) using a printing head (10), which can perform large ejection (large droplets 35) in which relatively large amounts of ink are ejected and small ejection (small droplets 36) in which relatively small amounts of ink are ejected, to perform printing, said apparatus comprising: means (printer controller) for selecting one printing mode from a first mode (Figure 8, column C) in which the printing head (10) is caused to perform only the large ejection (large droplets 35), a second printing mode (Figure 8, column B) in which the printing head is caused to perform only the small ejection (small droplets 36), and a third printing mode (Figure 8, column A) in which the printing head is caused to perform both the large ejection (large droplets 35) and the small ejection (small droplets 36), to perform printing in the selected printing mode.

Regarding claim 48, wherein the printing head (10) has a plurality of ejection openings (Figure 3, nozzles 27, 28), and the ejection opening (nozzles 27) used for the large ejection (large droplets 35) and the ejection opening (nozzles 27) used for the small ejection (small droplets 36) differ from each other (Figure 3).

Regarding claims 50 and 52, wherein one printing mode is selected for every one printing medium (Figure 8).

Regarding claims 51 and 53, wherein the one printing mode is selected according to a setting of a resolution (Figure 8, column 2, lines 51-54).

Regarding claims 54 and 57, an ink jet printing apparatus and method (Figures 1-3, 8 and 9) using a printing head (10), which can perform large ejection (large droplets 35) in which relatively large amounts of ink are ejected, small ejection (small droplets

36) in which relatively small amounts of ink are ejected, and medium ejection (Figure 9, medium droplets in column A) in which amounts of ink between the relatively large amounts of ink (large droplets 35) and relatively small amounts of ink (small droplets 36) are ejected, to perform printing, said apparatus comprising: means (printer controller) for controlling changing of a printing mode from among a first mode (Figure 9, column E) in which the printing head (10) is caused to perform only the large ejection (large droplets 35), a second mode (Figure 9, column C) in which the printing head (10) performs only the medium ejection (Figure 9, medium droplets in column C), a third printing mode (Figure 9, column D) in which the printing head (10) is caused to perform only the small ejection (small droplets 36), and a fourth printing mode (Figure 9, column A) in which the printing head (10) is caused to perform all of the large ejection (large droplets 35), the medium ejection (Figure 9, medium droplets in column C), and the small ejection (small droplets 36).

Regarding claim 55, wherein one printing mode is selected for every one printing medium (Figures 8 and 9).

Regarding claim 56, wherein the one printing mode is selected according to a setting of a resolution (Figure 8, column 2, lines 51-54).

Regarding claim 58, an ink jet printing apparatus (Figures 1-3, 8 and 9) forming a line of dots (Figures 8 and 9, column A), in which dots formed with different ejection amounts of ink (large droplets 35 and small droplets 36) are arranged, in a scan direction of a printing head (10), wherein the line of dots (Figures 8 and 9, column A) is formed by a plurality of times of the scan of the printing head (10), and the respective

dots of different amounts of ink (large droplets 35 and small droplets 36) are formed by different scans (Figures 8 and 9) of the printing head (10).

Regarding claim 59, wherein the line of dots (Figures 8 and 9, column A) is formed by a large ejection amount of ink (large droplets 35), a medium ejection amount of ink (Figure 9, medium droplets in column A), and a small ejection amount of ink (small droplets 36), for respective scans of the printing head (10).

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to An H. Do whose telephone number is 571-272-2143. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AD
September 29, 2004

K. Figgins 10/29/04
Primary Examiner
October 7, 2004